InfoWorkSpace™
Joint Theater Knowledge Management Conference

" Essential to the power of adaptive planning
and execution is an ability to conduct large scale, vertical and horizontal collaboration. Frankly, the required collaboration is on a scale
that dwarfs any existing commercial application or the commercial world's understanding of collaboration."

Admiral E.P. Giambastiani
Commander
United States Joint Forces Command

Agenda

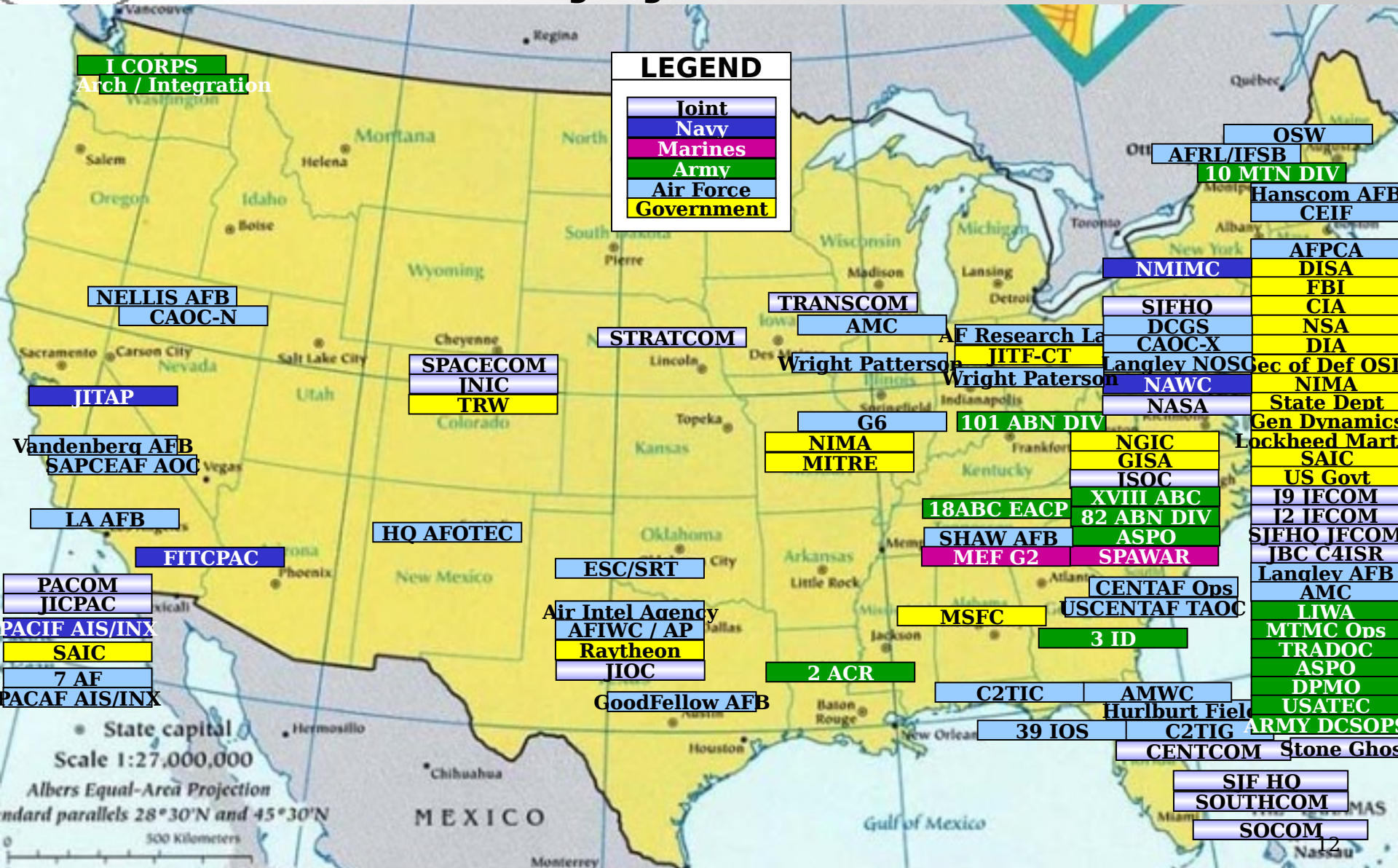
- Introduction to InfoWorkSpace™ (IWS)
- Collaboration and Knowledge Management
- Case Studies of IWS
- Future of IWS
- Demonstration of NEW IWS

History of IWS

- Originally Developed by GTE in 1997-1998
  - BETA Tested at Joint Forces Intelligence Command (JFIC) – 1998
  - Joint Intelligence Virtual Architecture (JIVA) Standard (JCE) – 1999-Present
  - Certified up to the SCI level since 1999
  - Chosen as the Air Force C2 Collaboration tool of choice – 1999
  - Deployed IWS to Kosovo – Summer 1999
  - GTE Unit sold to General Dynamics who then continued to develop the product.
  - Used by the Air Force JEFX 1999, 2000, 2002, 2004, Multiple Blue Flags, Red Flags, Roving Sands, and other Air Force Experiments and Exercises
  - Used as primary Collaboration tool in MC00 and MC02
  - Used by every US Joint Command for real world operations
  - GD sells IWS and all rights to Ezenia! - 2001

InfoWorkSpace™ Area of Operations

The Following Organizations Have Used IWS:



InfoWorkSpace™ Has Provided Collaborative Suppo To Intelligence and C2 In The Following Regions:

QATAR
CAOC
AF
CENTCOM
Operation Iraqi Freedom

BOSNIA
IFOR
SFOR

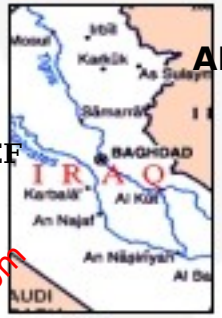
KUWAIT
CFLCC HQ
Operation Iraqi Freedom

SAUDIA ARABIA
Prince Sultan
Coalition
Coalition Forces

UNITED KINGDOM
Molesworth
D Info
DIS
Stone Ghost
EUCOM JAC

KOREA
I2
USFK

IRAQ
CJTF-7
MNF-I
MNC-I
Marines IMEF
Operation Iraqi Freedom



AFGHANISTAN
JTF 180
CJTF-76
Operation Enduring Freedom

GERMANY
EUCOM
LOCE 2
USEUA
V CORPS
USAFE
CTAF

PUERTO RICO
USARSO
ODCSINT

BELGIUM
NATO
BICES
LOCE

KOSOVO
KFOR

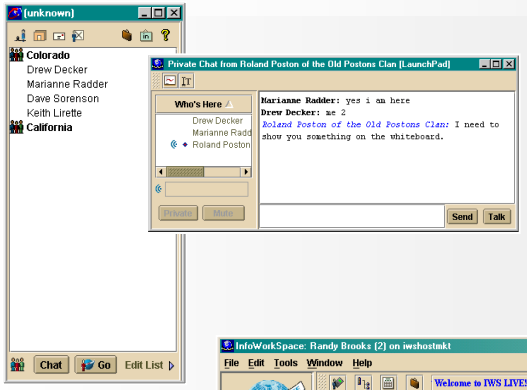
CANADA
Stone Ghost
Allies Stone Ghost

AUSTRALIA
Stone Ghost
Allies Stone Ghost

LEGEND
- Joint
- Navy
- Marines
- Army
- Air Force
- Government

Some Regions Implemented Temporary Emergency IWS communications to support combat operations

What is InfoWorkSpace™?
(An Initial Overview of the product)

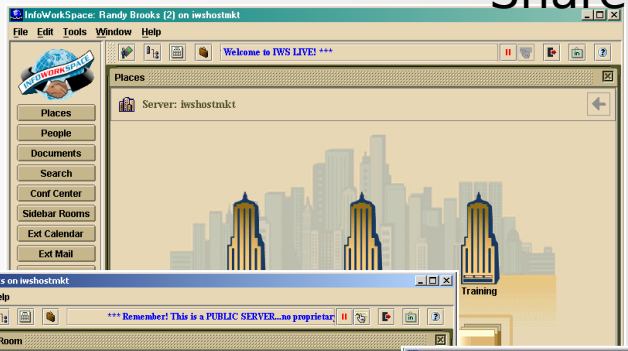


Instant Messaging

- Single Sign On
- Secure messaging
- Shared data views

Integrated Collaboration Toolset

- **one server**
- **one vendor**
- **one application**



Virtual Offices

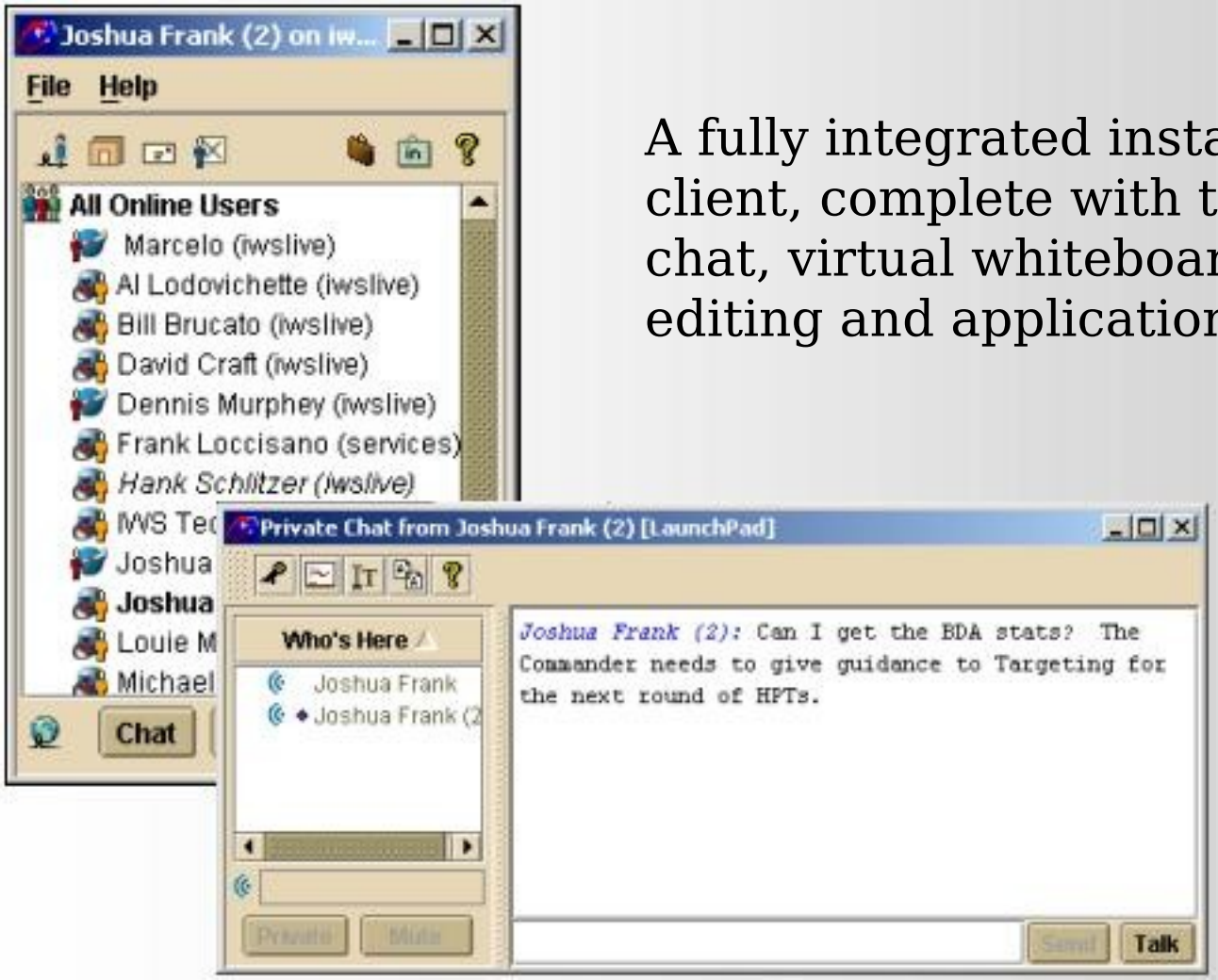
- Secure data repository
- Shared production tools
- Staff/Partner/Client rooms

Conferences

- Project planning
- Biz Plan reviews
- Decision briefings
- Large Group Session

Voice/Video OIP

LaunchPad Instant Messaging Client

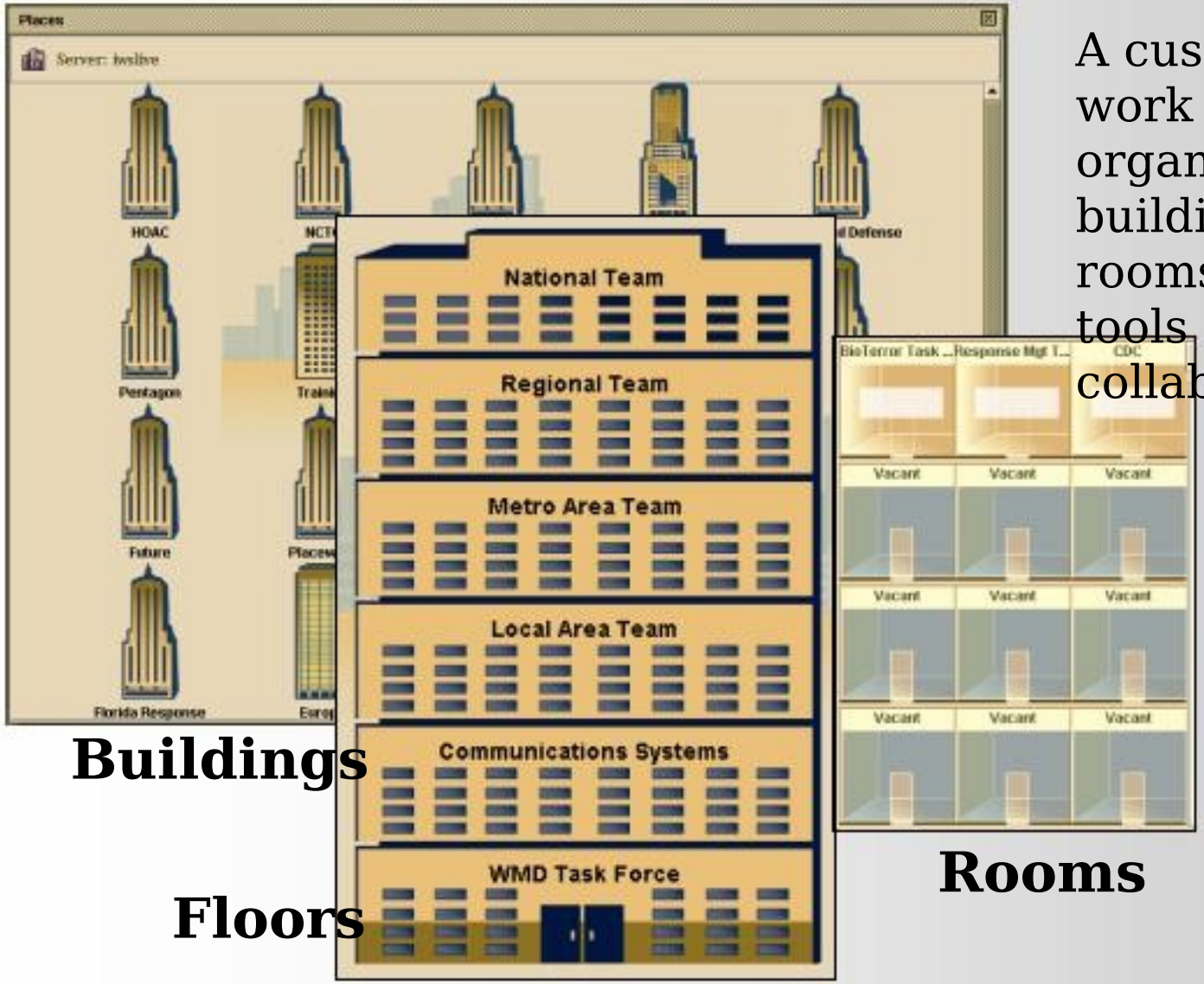


A fully integrated instant messaging client, complete with text and voice chat, virtual whiteboard, document editing and application sharing.

✓ Presence Awareness View who is online and locate who you need to communicate

✓ Chat Instantly connect, chat, and Work!

Virtual WorkSpace



Buildings

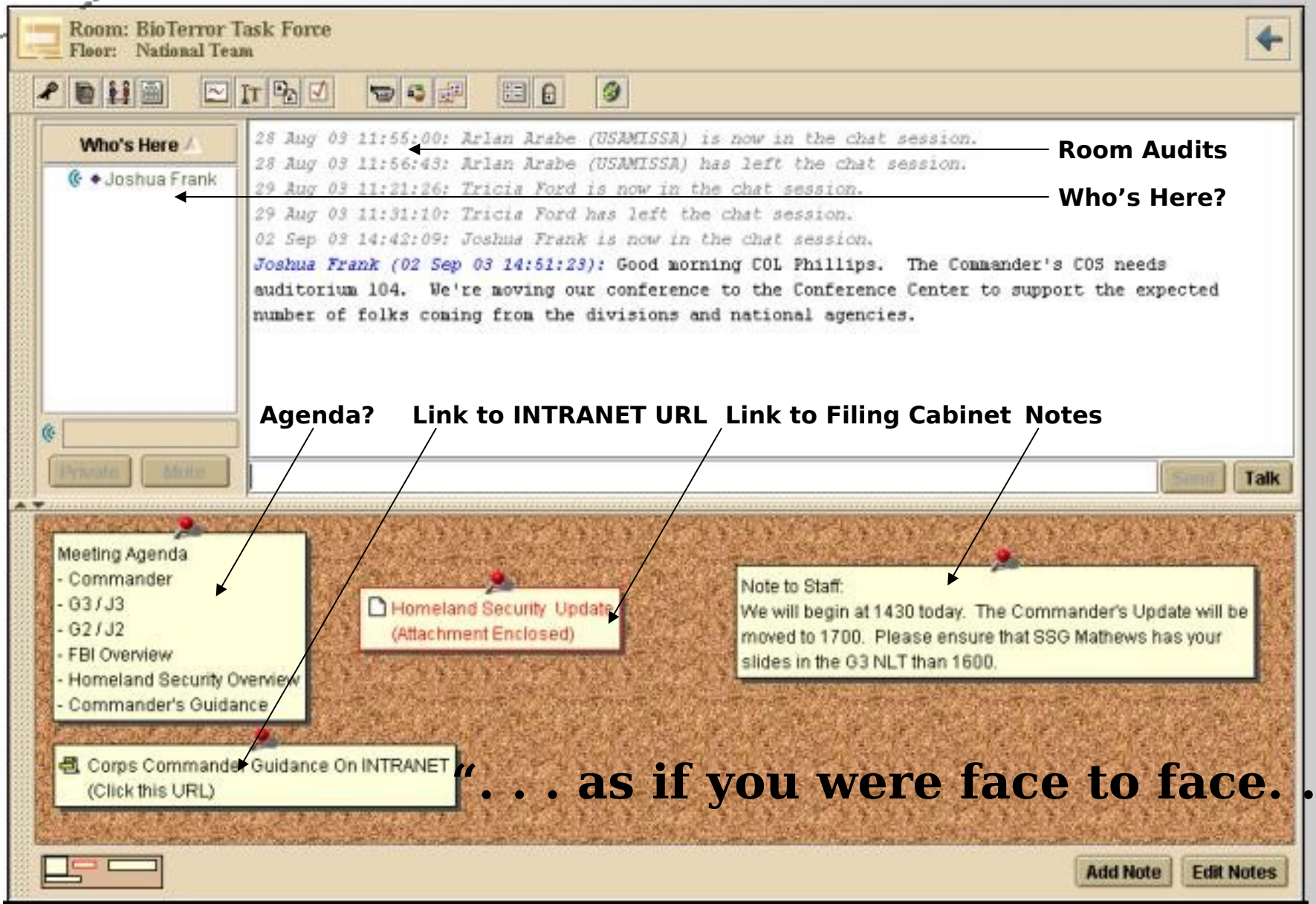
Floors

Rooms

A customizable virtual work environment organized into buildings, floors and rooms, filled with the tools needed to collaborate.

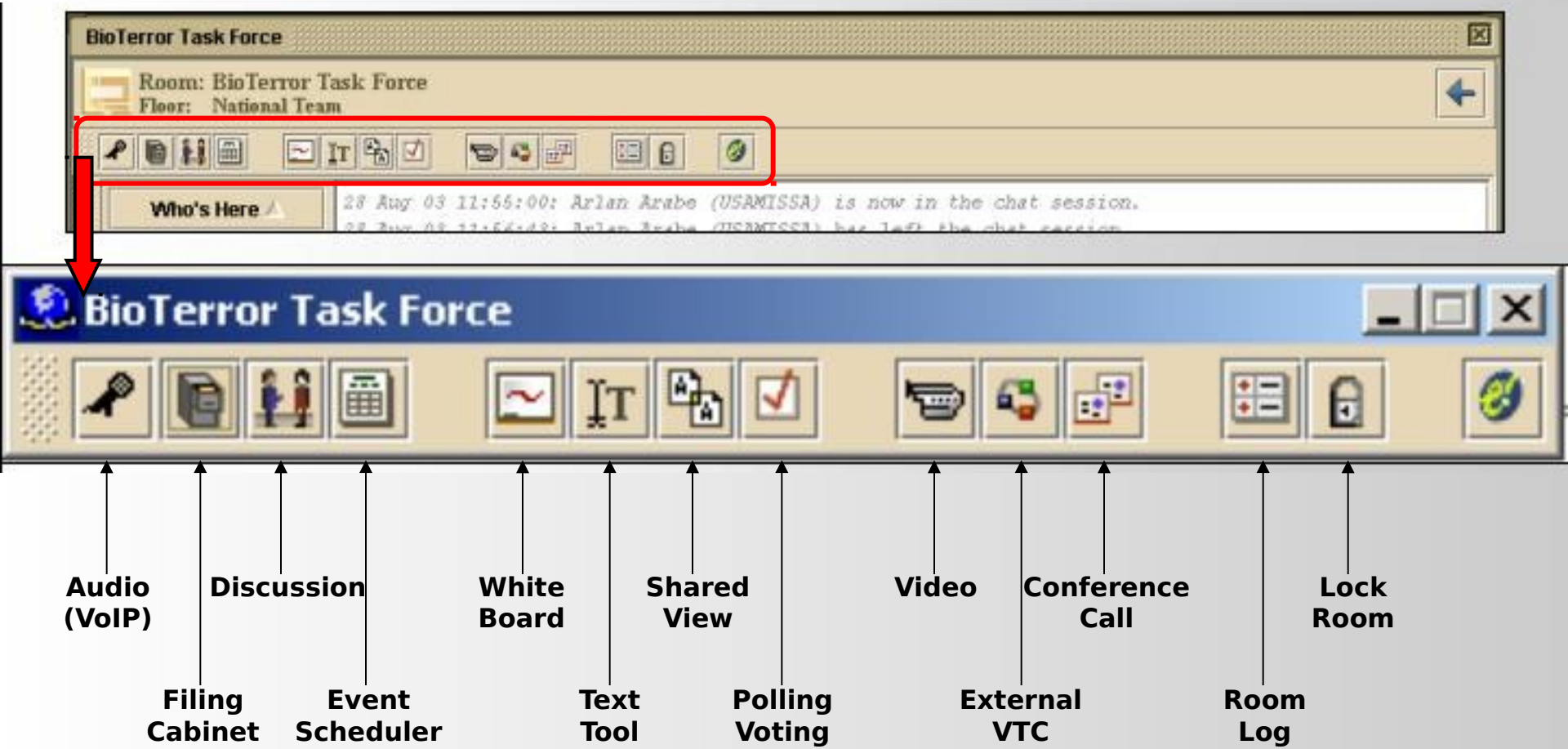
- ✓ Persistent Virtual WorkSpace
- ✓ Edit text,
- ✓ Annotate document / graphics
- ✓ Share applications
- ✓ Extensive logging

Advanced Virtual Rooms



". . . as if you were face to face. . ."

Functionality Designed For the Government



- ✓ Completely Customizable – Add / remove tools per room, floor, c

Room Toolset

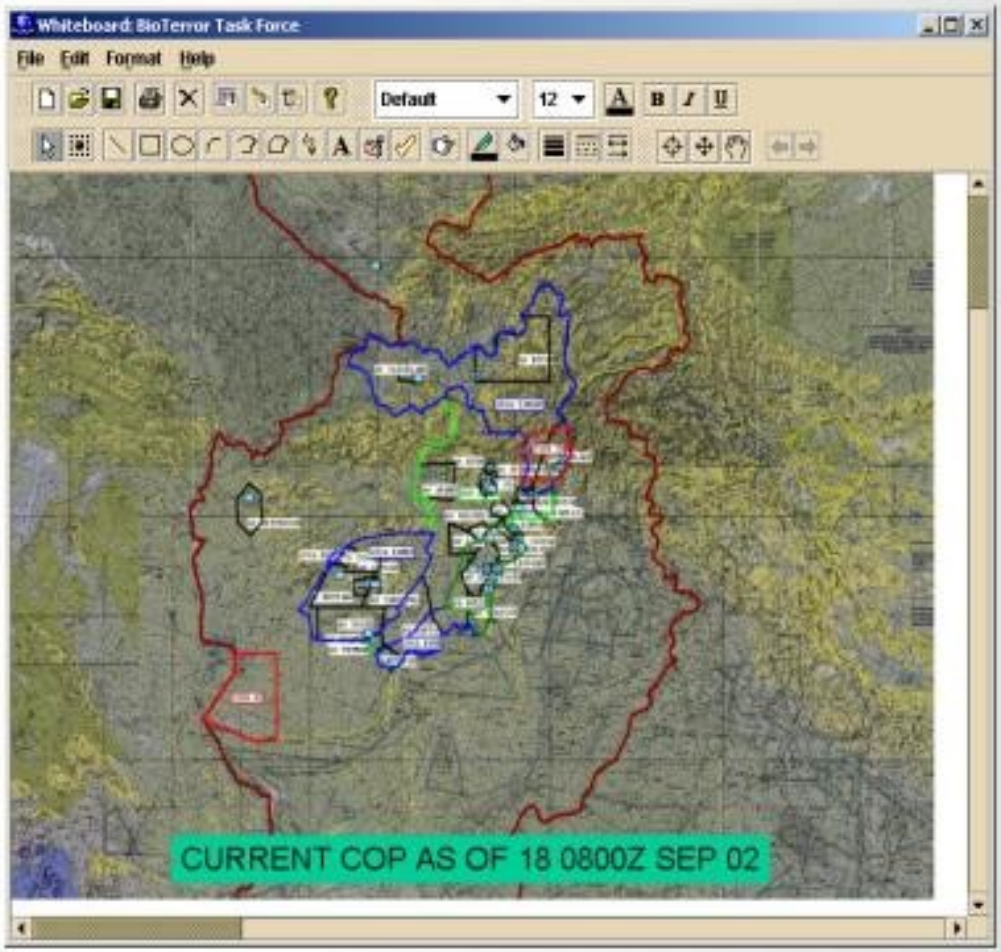
Filing Cabinet

- ✓ Fully supports any office applications (such as MS O
- ✓ Each room has its own filin cabinet

Event Scheduler

- ✓ Optional integration with LDAP-compliant Directory (such as MS Outlook Calendar, iPlanet Calendar)
- ✓ Available in every room and

Whiteboard



Advanced Capabilities:

- ✓ Built-in screen capture
- ✓ Drawing Tools
- ✓ Import/Export Images
- ✓ Edit User-tags

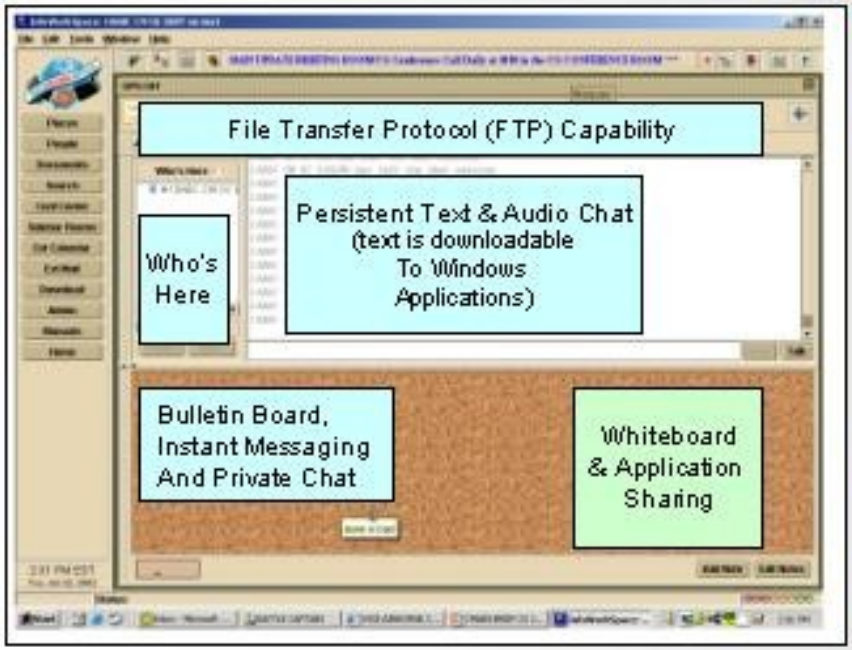
More functionality than the dry board in your office!

Accessible by anyone you need have access to it.

Value = time and mission succ

Common *Relevant* Operational Picture
What the Operational Headquarters Needs

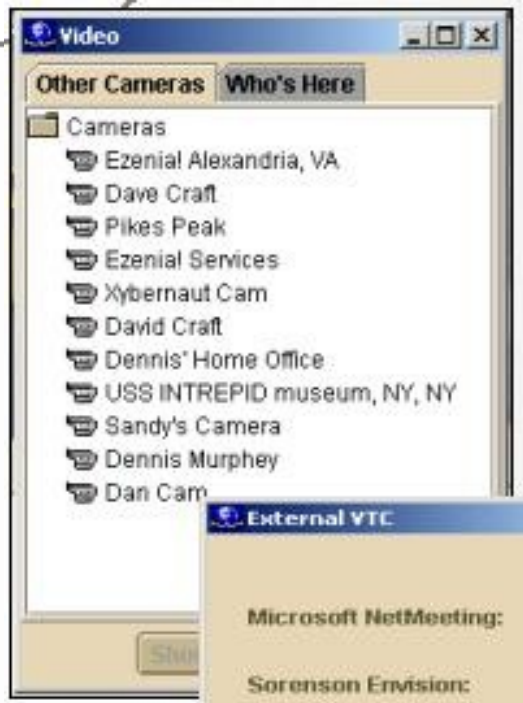
Command and Control (C2)



Common Operational Picture (COP)

IWS Allows Operational Headquarters to Display the CROP Either as a Static Snap-Shot
or in Real-Time to
Multiple Users (>50)

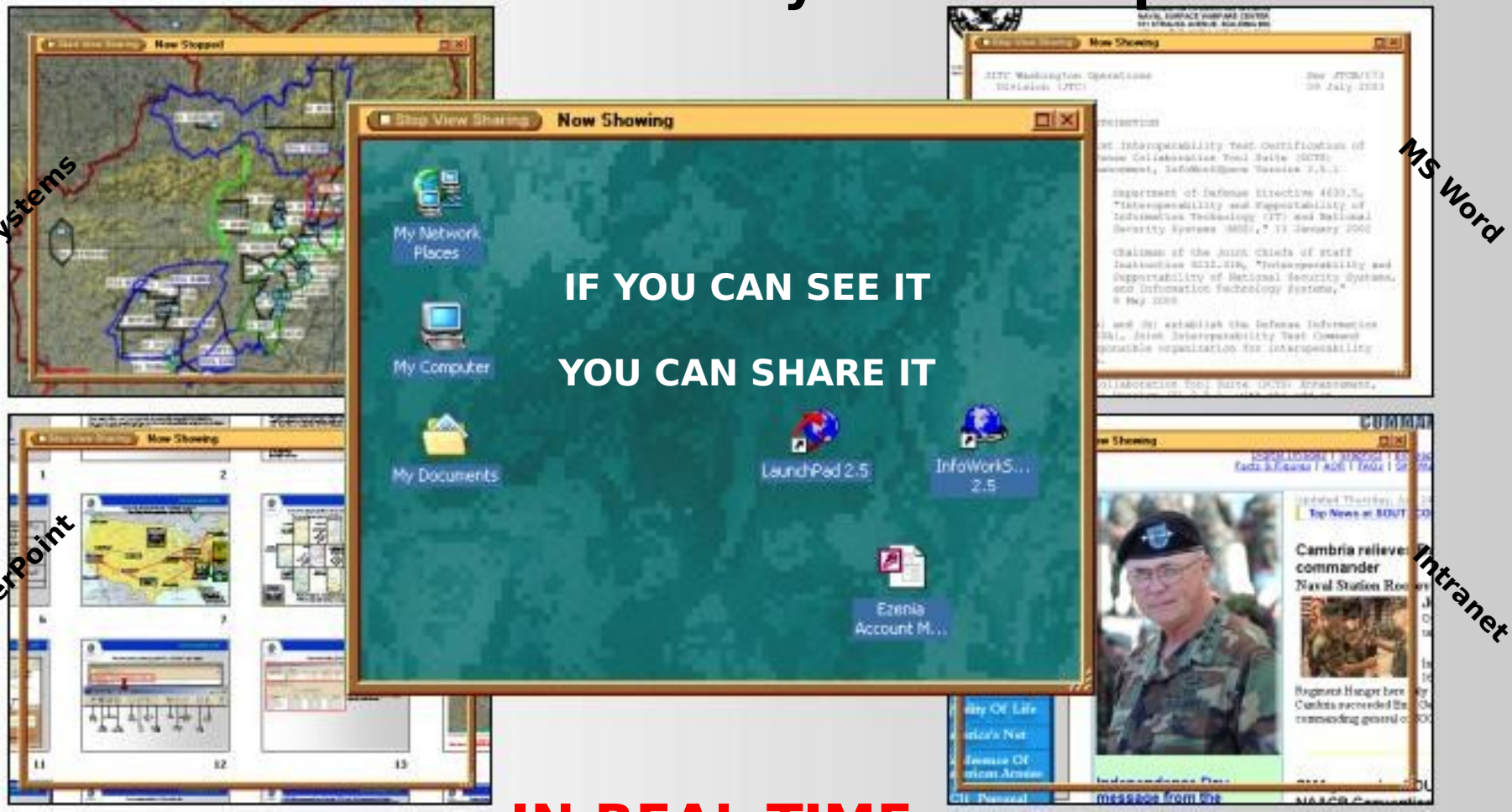
Commander's Guidance – Audio AND



Video
- ✓ Integrated Web cam video
- ✓ Ideal for one-way video streaming

External VTC
- ✓ More than a Web cam
- ✓ Integrated access to Microsoft's NetMeeting for required

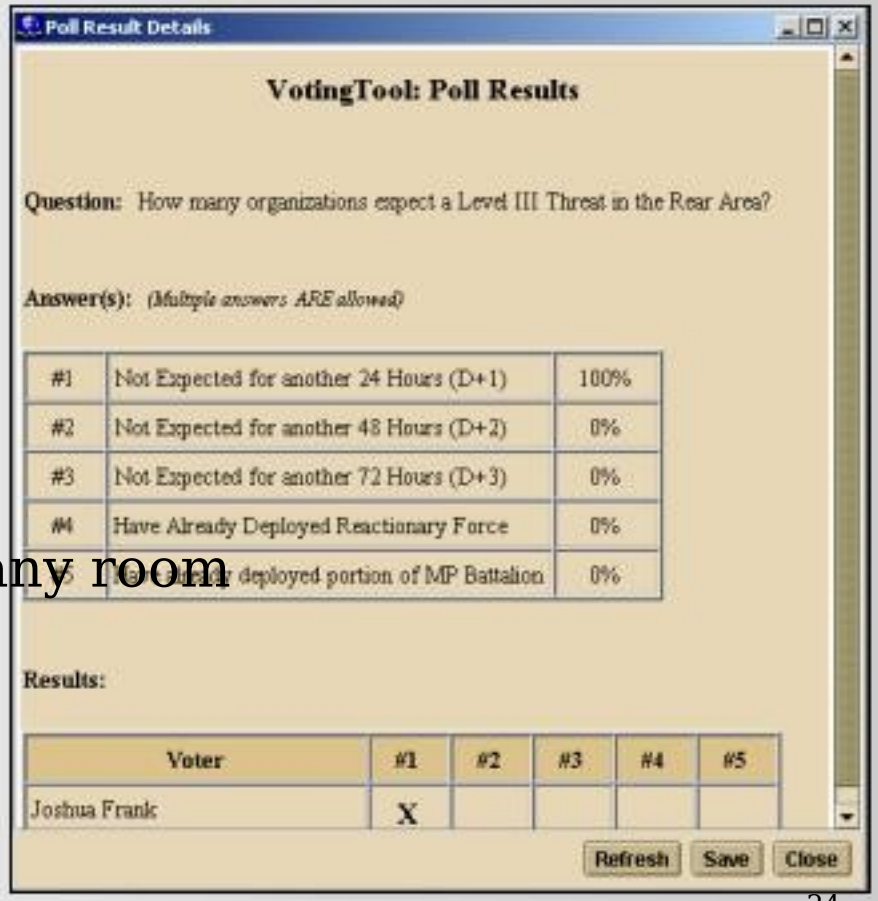
Shared View
“Anything” On Your Computer
Is Available On Anyone’s Computer



-IN REAL TIME -

(You decide What Can Be Shared. . . And When)

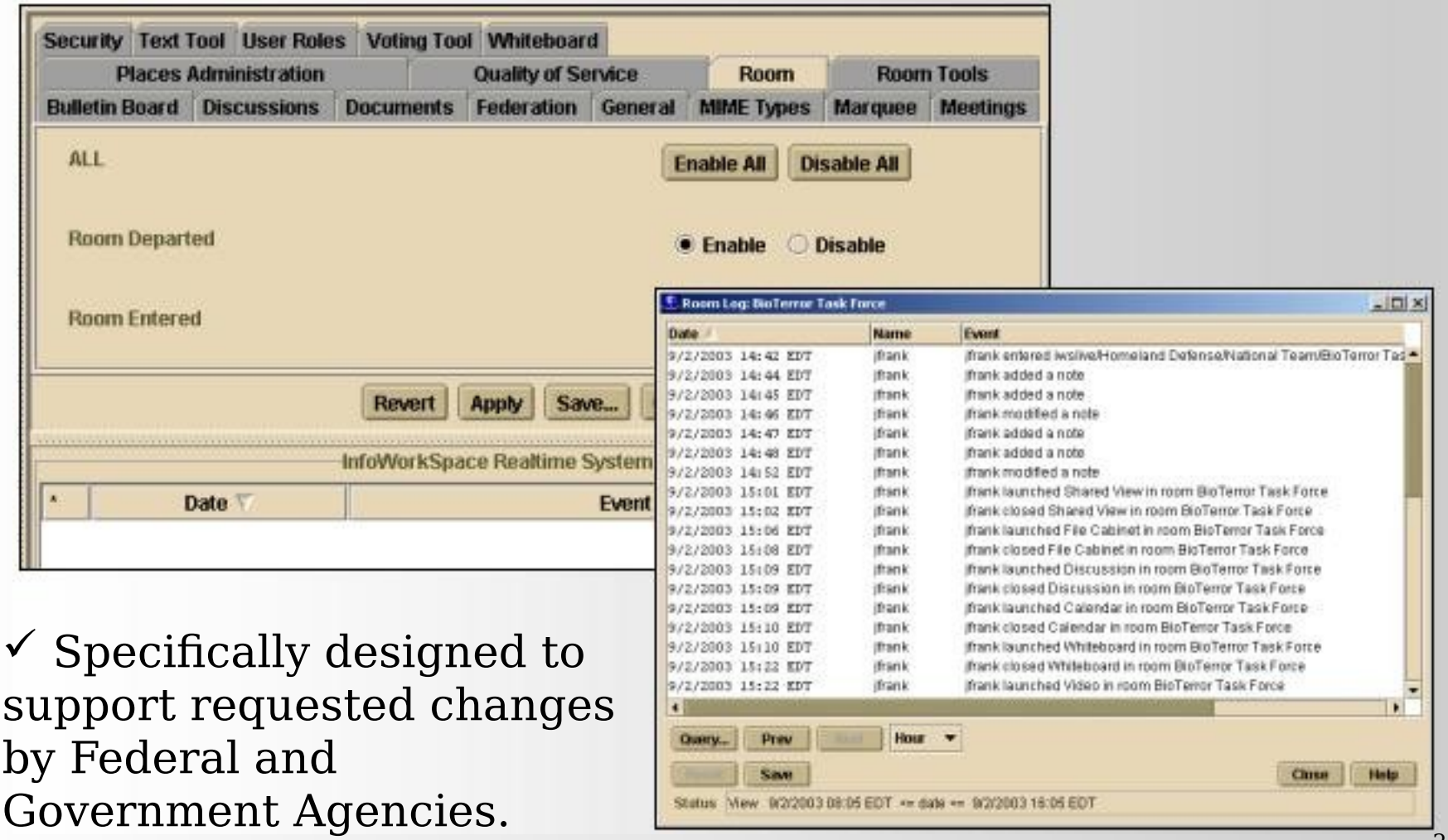
Polling / Voting
Commander Support Tool



- ✓ Obtain a ‘Pulse’ at any time in any room
- ✓ Save results of a vote
- ✓ Audit trail tells you:
  - Who voted
  - What they selected

Audits

No Other Solution Provides The Detail To Audit Unclass, Secret, and SCI Environments



✓ Specifically designed to support requested changes by Federal and Government Agencies.

Placeware/Live Meeting Conference Center

A browser-based auditorium-style meeting room where users

List of Slides

Audio

Ability To Use Whiteboard, Text, Polling, Or Access the Web in REAL TIME. . . . DURING A PRESENTATON.

Laser Pointer

Tools

Audience

Collaboration and Knowledge Management

Types of Collaboration

Collaboration can be asynchronous or synchronous.

“Asynchronous” means participants do not have to be working together at the same time. Planners in different headquarters, geographical locations, and time zones may sequentially use collaborative tools such as electronic mail. Collaboration occurs, but not concurrently among participants, though a much greater volume of information can be transferred and shared through this method of collaboration.

“Synchronous” collaboration means participants are working together at the
same time. This can occur when they are located together physically, such as in a
planning conference. Synchronous collaboration can occur also through video and
other collaboration tools such as InfoWorkSpace™.

Synchronous and asynchronous collaboration are complementary; both contribute to a fully enabled collaboration environment.

Four Steps to Successful Collaboration

- Capabilities - a tool that has all of the Asynchronous and Synchronous capabilities an organization requires to fulfill the Mission.
- Users – The correct people at the correct time at the correct location with the correct Knowledge and Information
- Infrastructure – defining what you plan to do and to make sure you have the network infrastructure to meet it.
- Procedures – To put all the above things together you will need SOP’s that define the way you work and procedures when they need calls to deviate.

Training/Practice of Collaboration and KM Tools

- There is no other way to learn to work in this type of environment but to practice over and over again. This will require people to continually exercise their skills not only horizontally but also vertically with people and organizations not within their control.

- An essential way to do this will be to exercise these skills in experiments and exercises but not only with your own team but with other agencies and multinational partners (Practice how you fight)

- Practicing to work this way will greatly enhance the capabilities once you are in a real operational environment and can greatly reduce the time and greatly enhance the capabilities for planning and rehearsal of operations prior to execution.

Collaboration: Top 10 Features

1. Real-time Presence Awareness
2. Instant Chat, text & voice
3. Video, web cam view
4. Shareview, desktop window
5. Whiteboard, digital images & annotation
6. Text Tool, brain storming, summary notes
7. Message Board, web view, interactive
8. File Storage, briefcase, file cabinet
9. Polling and Voting with archives
10. Customizable Web Portal pages

IWS Case Studies

InfoWorkSpace™ Facts

MILLENNIUM CHALLENGE 02 FACTS:

- ✓ **On average IWS had about 1000 users at any given time spread across the four servers located at the Joint Training Analysis & Simulation Center (JTASC).**
- ✓ **Largest auditorium audience was over 700 (709); had many sessions with over 500 in auditorium;**

daily conferences *averaged* 300 to 450 users.

OPERATION ENDURING FREEDOM FACT:

- ✓ **IWS deployed by CJTF180 in Afghanistan supports in excess of 150+ users at any given time and averages 80-100 auditorium participants for twice daily Conferences; conference participants login from 1-2 CONUS locations, 3-4 locations in Afghanistan, Pakistan, Uzbekistan, Kuwait and Saudi Arabia.**

MILLENNIUM CHALLENGE 02 FACT:

- ✓ **8 IWS servers in the Collaborative Federation averaged 90 to 95% uptime**

OPERATION ENDURING FREEDOM FACT: (source: CJTF180)

- ✓ **IWS Server has had in excess of *99% Reliability* while forward deployed in an austere, operational environment since 20 May 02**
- ✓ ***Longest* period of IWS Unavailability due to Server/System Failure was *15 minutes***

InfoWorkSpace™ Testimonials

Combined Air Operations Center (CAOC)	"IWS' strength for the CAOC is its integrated file sharing and conferencing briefing capabilities, and [IWS] is used very heavily…to coordinate on time-critical targets."
Millenium Challenge 02	"It was hard to believe we were at 35-40,000 feet [Airborne TOC] and working. The system [IWS] worked exceptionally well. It was like we were right there."
Millenium Challenge 02	"JEMPRS-NT, had 13 clients on-line ***on the aircraft*** collaborating with the JCCC, Coronado, CoS, and each other; JTF Commander logged into JEMPRS-NT and participated in the Joint Targeting Board (JTB) brief issuing guidance and commander's intent; Our [IWS] clients observed the JTB brief on IWS over the MC02 network along with over 300 other participants."

InfoWorkSpace™ Testimonials

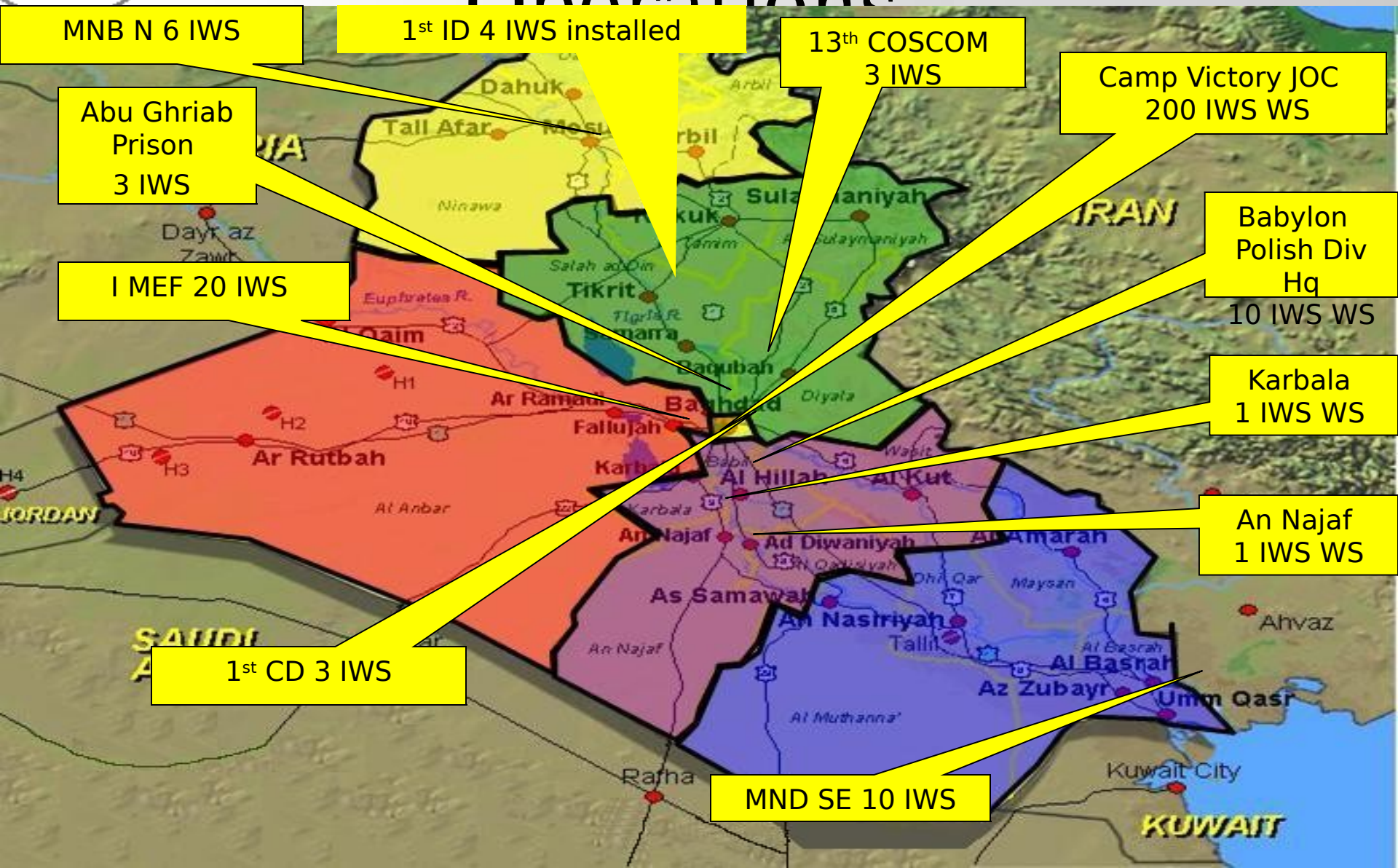
Millenium Challenge 02	"Collaboration tool sets: Through the use of a commercial program called InfoWorkSpace™ (IWS), the user can collaborate with two or 200 people all at the same time, according to Johnson. The power of collaboration will lead to faster, better-informed decisions by the commands – a key factor in any Rapid Decisive Operations (RDO) initiative.

JTF Commander using IWS to
Issue guidance, commander's intent, and participate in the JTB from 30,000 feet in the air.

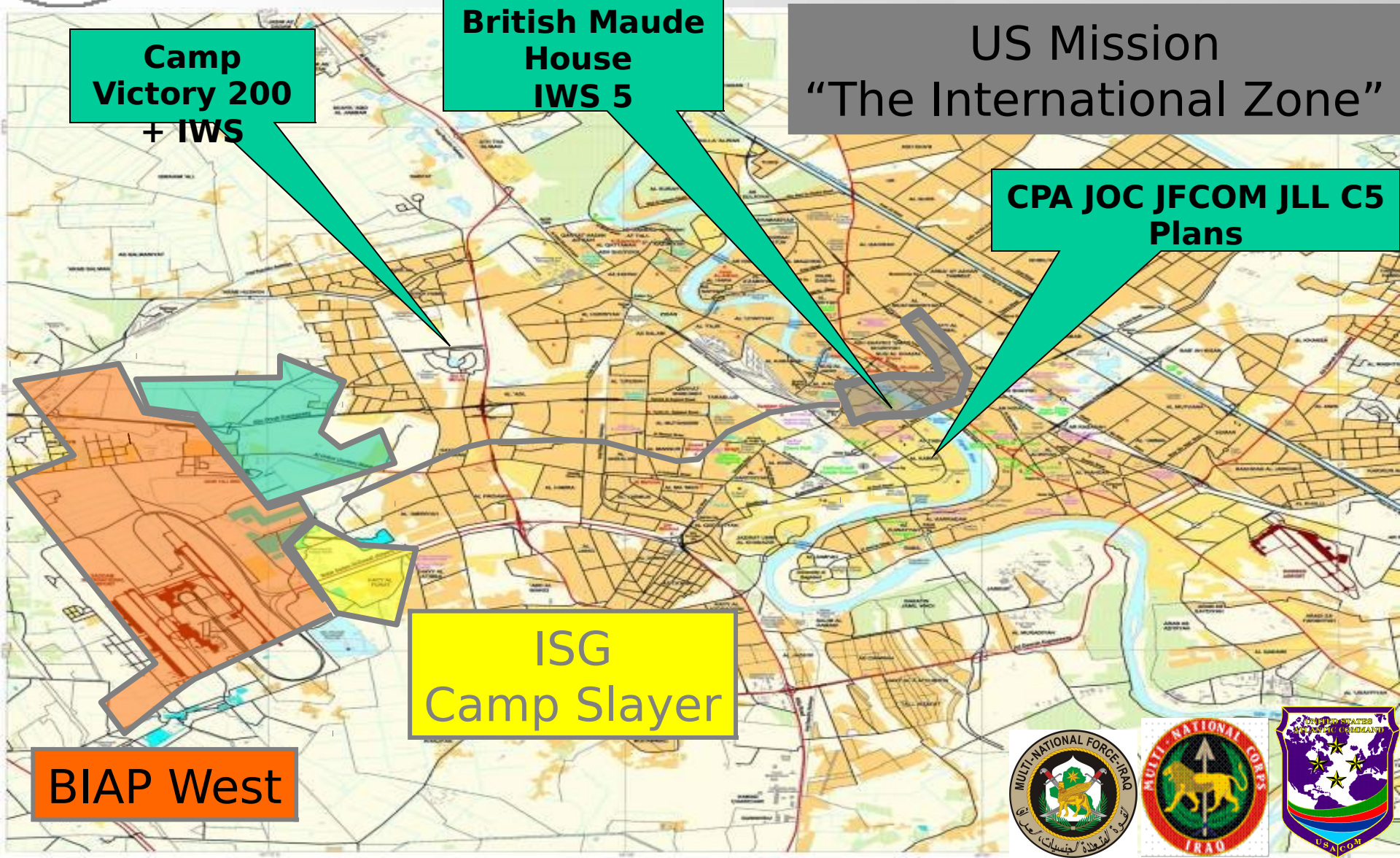
IWS use in IRAQ

- JFCOM engaged CFLCC prior to OIF to stand up a SJFHQ JTF-4 – Jan 02
- OCT 03 JFCOM at Camp Victory to establish foundation for CIE
- DEC 03 MRX Ft Hood
- DEC 03 CENTCOM permits JFCOM to install IWS on CENTRIX
- FEB 04 JFCOM team arrives (Feb 3)
- Multiple IWS Servers on SIPRENT
- Multiple IWS Servers on CENTRIX
- Marines in Iraq loved IWS so much instead of using the CJTF-7 Server, they purchased an IWS Server for their own use to put on their networks in Iraq.

IWS Iraq Theater of Operations



IWS Around Baghdad



IWS Use Testimonies

Arba'een

- A result of Ashura bombing stood up R – JCC for Arba'een
- IWS was an unqualified success in a bandwidth constrained environment
- Information was continuously passed and in some cases was when DNVT was down. The following are Arba'een transcripts:
  - **Kelly CPT Heath A USA CJTF7-ECC BATTLE CPT**: This is WO1 Lyons C3IO rep at Camp Juliet: Polish C2 reports that at MB 09950820 are two (2) mortar positions type unkown/ probably 60-82 MM. well within range of Camp Juliet
  - **Kelly CPT Heath A USA CJTF7-ECC BATTLE CPT**: Also that an unkown size Mahdi force is moving towards Camp Juliet to conduct an attack. This report is from an unconfirmed source. WO1 Lyons out.
  - **Peguero SGT Albert USA CJTF7-IFC**: question for you demars, what is the situation in an NAjaf, al kut, karbala, ad diwaniyah and any other cities that are having problems?
  - **Peguero SGT Albert USA CJTF7-IFC: i'd call you but our phones are down**

MND CS LNO IWS Usage
Danish LNO

- This small episode shows that IWS ability to do voice and chat display is very effective. April 23, 2004.
  - 0900 – 1030 Chat on Ops topics between JOC and MNDCS G3 Plans
  - 1030 internal update in JOC and I inform counterpart in Al Hilla that I will monitor while speaking on the JOC intercom
  - 1043 I see an ambush/IED warning
  - 1043 I interrupt the JOC update and inform all MSC LNOs of the warning (the info is disseminated in literally seconds).
- This happened during a time when the DNVT phones were non-op we used IWS between JOC and MND CS HQ at Al Hilla. **CJTF7 MND CS C3 LNO Victory JOC**

IWS Future

- Interoperability (More Standards Based)
- Web Based
  - Text Chat Thin Client
- Database Agnostic
- Low bandwidth capable. Designed to handle two collaborative sessions (whiteboarding, chat, audio) within a single 64 Kb/s connection (e.g. INMARSAT). Chat only sessions would be less than 2.4 Kb/s.
- Document Management Interoperability
- Portal API’s
- XMPP Interoperability Support
- Support for multiple simultaneous classification domains
- Able to support 1000+ users in single collaborative session on a quad CPU Pentium 4 server.
- Collaborative Tool Presence Indicator Portlet (i.e. buddy list)

IWS Future (Cont'd)

- Who we are working with
  - Groove Networks
  - Microsoft
    - Live Meeting
    - Share Point Portal Server
  - Centrix Metaframe Server
  - Air Force Rome Labs – Cross Domain Collaboration
  - US Government Funded Projects
  - Unisys (Scalability)

InfoWorkSpace

LIVE DEMO

(Upcoming Release)

INFOWORKSPACE
Questions or Comments?

James P. Yuhas
Ezenia! Inc.
Account Manager
United States Joint Commands
United States Air Force
(757) 339-8597
jyuhas@ezenia.com